1905MNRAS..65..586W

Revised Elements of UY Cygni (*Ch.* 7514).

R.A. = $20^{\rm h}\ 52^{\rm m}\ 16^{\rm s}$, Decl. = $+30^\circ\ 2'{\cdot}8$ (1900).

By A. Stanley Williams.

The period of $13^{\rm h}\ 27^{\rm m}\ 20^{\rm s}{\cdot}85$ found for this variable star in 1903 * was based on the assumption that a photograph obtained here on 1900 November 22 was taken when the star was either at, or at any rate very near, its maximum brightness. The observations of the summer and autumn of the same year showed, however, that this period was somewhat too short, and it appears that the star was really nearly an hour and a half past maximum at the time when the photograph above referred to was taken. Dr. E. Hartwig obtained a period of $13^{\rm h}\ 27^{\rm m}\ 27^{\rm s}{\cdot}59$ from the comparison of two maxima observed by him on 1902 June 28 and 1903 October 28.† In the present note fresh elements have been derived from the visual observations of the three years 1902, 1903, and 1904.

Table I. contains all the observed times of T_0, that is, the time when the variable in its rapid rise from minimum attained to equality with the comparison star *c* ($10^{\rm m}{\cdot}2$).‡ These observations were all made with a $6\frac{1}{2}$-inch reflector. The third column of the table gives the observed geocentric time of T_0, and the fourth column the approximate correction for the light-equation. The other columns will explain themselves.

Table I.

Observed and Computed Times of T_0.

E.	Date.			Observed T_0.	Red to ⊙.	Helio-centric T_0.	Computed T_0.	O−C.
				h m	m	h m	h m	m
1138	1902	Aug.	22	10 10	+6·5	10 16·5	10 10·7	+ 5·8
1145			26	8 23	+6·5	8 29·5	8 22·7	+ 6·8
1147			27	11 18	+6·5	11 24·5	11 17·5	+ 7·0
1293		Nov.	17	7 52	+0·3	7 52·3	8 1·2	− 8·9
1634	1903	May	27	12 33	+0·7	12 33·7	12 52·4	−18·7
1789		Aug.	22	10 40	+6·5	10 46·5	10 43·0	+ 3·5
1814		Sept.	5	11 10	+6·3	11 16·3	11 8·6	+ 7·7
1821			9	9 18	+6·2	9 24·2	9 20·6	+ 3·6
1830			14	10 19	+6·0	10 25·0	10 27·3	− 2·3
1846			23	9 51	+5·5	9 56·5	9 46·1	+10·4
2408	1904	Aug.	3	12 35	+6·3	12 41·3	12 37·7	+ 3·6
2417			8	13 40	+6·4	13 46·4	13 44·5	+ 1·9
2422			11	8 43	+6·5	8 49·5	9 1·6	−12·1
2424			12	11 41	+6·5	11 47·5	11 56·5	− 9·0
2488		Sept.	17	9 18	+5·9	9 23·9	9 11·5	+12·4

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* *Monthly Notices*, vol. lxiii. p. 307.

† *V.J.S. der Astron. Gesell.*, Jahrgang 38, Heft 3, p. 240.

‡ See diagram in the *Monthly Notices*, vol. lxiii. p. 305.

1905MNRAS..65..586W

Table II. gives in similar form the observations of maximum. The two marked with an H in the last column were observed by Hartwig at Bamberg, the others by the writer. The photographic observation of 1900 November 22, alluded to above, has been added for comparison. As already remarked, it is nearly an hour and a half later than the actual time of maximum. Both the times of T_0 in Table I. and those of maximum in Table II. were ascertained chiefly by means of single curves, though a mean light-curve was made use of in cases of uncertainty, or whenever this seemed desirable.*

Table II.

Observed and Computed Times of Maximum.

E.	Date.	Observed Maximum.	Red to ⊙.	Heliocentric Maximum.	Computed Maximum.	O−C.	
		h m	m	h m	h m	m	
0	1900 Nov. 22	[10 55]	−0·4	[10 54·6]	9 26·3	[+88·3]	p
1040	1902 June 28	...	...	12 30	12 46·1	−16·1	H
1072	July 16	11 40	+5·5	11 45·5	11 23·6	+21·9	
1138	Aug. 22	11 29	+6·5	11 35·5	11 33·5	+ 2·0	
1145	26	9 32	+6·5	9 38·5	9 45·5	− 7·0	
1147	27	12 29	+6·5	12 35·5	12 40·3	− 4·8	
1186	Sept. 18	9 34	+5·8	9 39·8	9 29·8	+10·0	
1293	Nov. 17	9 13	+0·3	9 13·3	9 24·0	−10·7	
1634	1903 May 27	13 53	+0·7	13 53·7	14 15·2	−21·5	
1641	31	12 31	+1·1	12 32·1	12 27·2	+ 4·9	
1789	Aug. 22	12 5	+6·5	12 11·5	12 5·8	+ 5·7	
1814	Sept. 5	12 19	+6·3	12 25·3	12 31·4	− 6·1	
1821	9	10 33	+6·2	10 39·2	10 43·4	− 4·2	
1830	14	11 38	+6·0	11 44·0	11 50·1	− 6·1	
1846	23	11 3	+5·5	11 8·5	11 8·9	− 0·4	
1908	Oct. 28	...	...	5 45·0	5 29·0	+16·0	H
2390	1904 July 24	11 42	+6·0	11 48·0	11 46·9	+ 1·1	
2408	Aug. 3	13 49	+6·3	13 55·3	14 0·5	− 5·2	
2417	8	15 1	+6·4	15 7·4	15 7·3	+ 0·1	
2422	11	10 19	+6·5	10 25·5	10 24·4	+ 1·1	
2424	12	13 23	+6·5	13 29·5	13 19·3	+10·2	
2463	Sept. 3	10 7	+6·3	10 13·3	10 8·8	+ 4·5	
2488	17	10 49	+5·9	10 54·9	10 34·3	+20·6	
2504	26	9 46	+5·3	9 51·3	9 53·1	− 1·8	

A period of $0^{d}\cdot5607082$ was derived from the observations of T_0, and one of $0^{d}\cdot5607125$ from the observations of maximum;

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* All the times in the year 1902 were derived by means of a mean light-curve.

1905MNRAS..65..586W

and giving the two results equal weight, the following are the revised elements of variation of *UY Cygni*:

$$\begin{aligned} T_0 &= 1900 \text{ November } 22,\ 8^{h}\ 3^{m}{\cdot}5 \text{ (G.M.T.)} \\ &\quad + 13^{h}\ 27^{m}\ 25^{s}{\cdot}37\ E \\ &= \text{J.D. } 2415346{\cdot}3358 + 0^{d}{\cdot}5607103\ E \\ \text{Maximum} &= 1900 \text{ November } 22,\ 9^{h}\ 26^{m}{\cdot}3 \text{ (G.M.T.)} \\ &\quad + 13^{h}\ 27^{m}\ 25^{s}{\cdot}37\ E \\ &= \text{J.D. } 2415346{\cdot}3933 + 0^{d}{\cdot}5607103\ E \end{aligned}$$

The times of T_0 and of maximum according to these elements will be found in the sixth columns of the foregoing tables, and the differences O—C in the last columns.

Note on the Variable RZ Lyræ.

R.A. = $18^{h}\ 39^{m}\ 54^{s}$, Decl. = $+32^{\circ}\ 41'{\cdot}7$ (1900).

About 400 observations of the brightness of this star have been obtained during the past two years; but as the elements published in the *Ast. Nach.* 3880 still indicate the time of maximum within a few minutes, it does not seem necessary to discuss these at present. It may be mentioned, however, that the visual light-curve of the star corresponds very closely with the photographic light-curve published by Herr R. S. Dugan in the *Ast. Nach.* 3898.

Hove: 1905 *March* 22.

Revised Elements of Y Lyræ (*Ch.* 6685).

R.A. = $18^{h}\ 34^{m}\ 12^{s}$, Decl. = $+43^{\circ}\ 51'{\cdot}8$ (1900).

By A. Stanley Williams.

The period of variation of this star published in the *Monthly Notices* for January 1902 was derived solely from the comparison of three photographs. Two of these, dated respectively 1899 December 31 and 1900 September 3, had evidently been taken when the star was nearly at its maximum brightness, and in November 1901 several photographs were taken near maximum, one of which was selected as seeming to show practically the same phase as the other two. Although the resulting period of $12^{h}\ 3^{m}\ 52^{s}{\cdot}21$ still satisfies closely the observations, yet it now seems desirable to derive fresh elements of variation from the visual observations alone, since the latter now extend over a period of four years.

Table I. contains all the observed times of T_0, that is, the